

Notice of Allowability

Application No.

10/705,866

Applicant(s)

SVILANS ET AL.

Examiner

Art Unit

K. Cyrus Kianni

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/13/03.
2. ☒ The allowed claim(s) is/are 1-11 and 18-20.
3. ☒ The drawings filed on 13 November 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

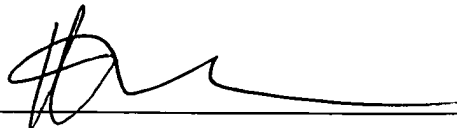
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 10
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____



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- Applicant's election without traverse of Group invention I, claims 1-11 and 18-20, in a telephone conversation with the examiner on 11/30/04 is acknowledged and the summary of the restriction requirement is as follows:

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-11 and 18-20, drawn to an optical analyzer for analyzing n wavelengths wherein a plurality of m detectors optically coupled with the AWG for detecting wavelength or channel information, wherein $m < 2n$ when a single detector is associated with a single wavelength and wherein $m < 2n$ when two detectors are associated with a single wavelength, classified in class 385, subclass 14.

II. Claims 12-15, drawn to an optical analyzer including an array of m detectors, and arrayed waveguide grating having an input port for receiving the output signal from the resonator and having at least $m/2$ output ports to provide $m/2$ output signals to at least n distinct locations, light provided to the $m/2$ distinct locations being optically coupled with the m detectors, classified in class 385, subclass 24.

III. Claims 16-17, drawn to a method of providing wavelength information including the steps of receiving the second periodic signal and spatially demultiplexing the second group of channels; and detecting with the array of detectors information related to the second group of channels, wherein same detectors used in step (c) are used in step (f) for detecting, classified in class 385, subclass 31.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I (claims 1-11 and 18-20), II (claims 12-15) and III (claims 16-17) are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as

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claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the Group invention III can be used as a adding/dropping filter of specified wavelengths in a Wavelength Division Multiplexing unit of a communication system rather than a wavelength information provider for analyzing wavelength spectrum of input signal in a given bandwidth as claimed in inventions I and/or II.

3. Because these inventions are distinct for the reasons given above and the search required for Group III is not required for Group I and/or II, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Mr. Teitelbaum on 1/30/04 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-11 and 18-20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-17 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

EXAMINER'S AMENDMENT

6. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

This examiner's Amendment is allowed because the applicant's election of claims 1-11 and 18-20 has been without traverse. The applicant also in a telephone conversation on 12/29/04 did agree on cancellation of the non-elected claims and made clarification on questions/concerns of the examiner regarding the drawing elements and thus a determination was made that no new drawings are needed. Thus the non-elected claims are cancelled by the examiner in order to make the case allowed.

Please cancel claims 12-17

Reason for Allowance

7. Claims 1-11 and 18-20 are allowed for the following reasons:

The instant application is deemed to be directed to a nonobvious improvement over the invention patented in Pat. No. Koga et al. (US 5617234).

Claim 1 is allowed because the prior art of record, taken alone or in combination, fails to disclose or render obvious a tunable filter having an input port and an output port and a periodic output response with a free spectral range F_{SR} and having a

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bandwidth B in combination with the rest of the limitations of the base claim. Claims 2-11 and 18-20 depend on claim 1 and therefore they are also allowed. The important aspect of the invention is directed to simplifying the optical and circuit elements of a spectrum analyzer for monitoring and analyzing n wavelengths input optical signal such as by reducing wavelength detectors at output ports. Koga's shortcomings in teaching of a spectrum analyzer not only fails to teach the above limitation related to the above tunable filter coupled to AWG but also the detector electronics associated with signal detection where $m < n$ and $m < 2n$ are in two separate embodiments that even if they are combinable together the end product would have necessitate more circuits 12 and optical switching elements 23 and consequently it would becomes more complex and costly spectrum analyzer than that of the invention in which all circuit/optical elements are in a single simplified electro-optic system shown in fig. 2. The short comings of other prior art references are specially related in meeting of the conditions of single wavelength detection with single and/or double detectors (wherein $m < n$ and/or $m < 2n$); and further there is no compelling motivation to combine the prior art references in order to over come the shortcomings of Koga et al. teachings.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Citation of Relevant Prior Art

8. Prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In accordance with MPEP 707.05 the following references are pertinent in rejection of this application since they provide substantially the same information disclosure as this patent does. These references are:

Welch et al. 20040033004

Kikuchi et al. 20040208428

Oguma et al. 20020015554

Frish et al. 20010031113

These references are cited herein to show the relevance of the apparatus/methods taught within these references as prior art.

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Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to K. Cyrus Kianni whose telephone number is (571) 272-2417.

The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 6:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached at (571) 272-2415.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for formal communications intended for entry)

or:

Hand delivered responses should be brought to Crystal Plaza 4, 2021 South Clark Place, Arlington, VA., Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to be 'K. Kianni', with a long horizontal line extending to the right.

K. Cyrus Kianni
Patent Examiner
Group Art Unit 2883

December 28, 2004